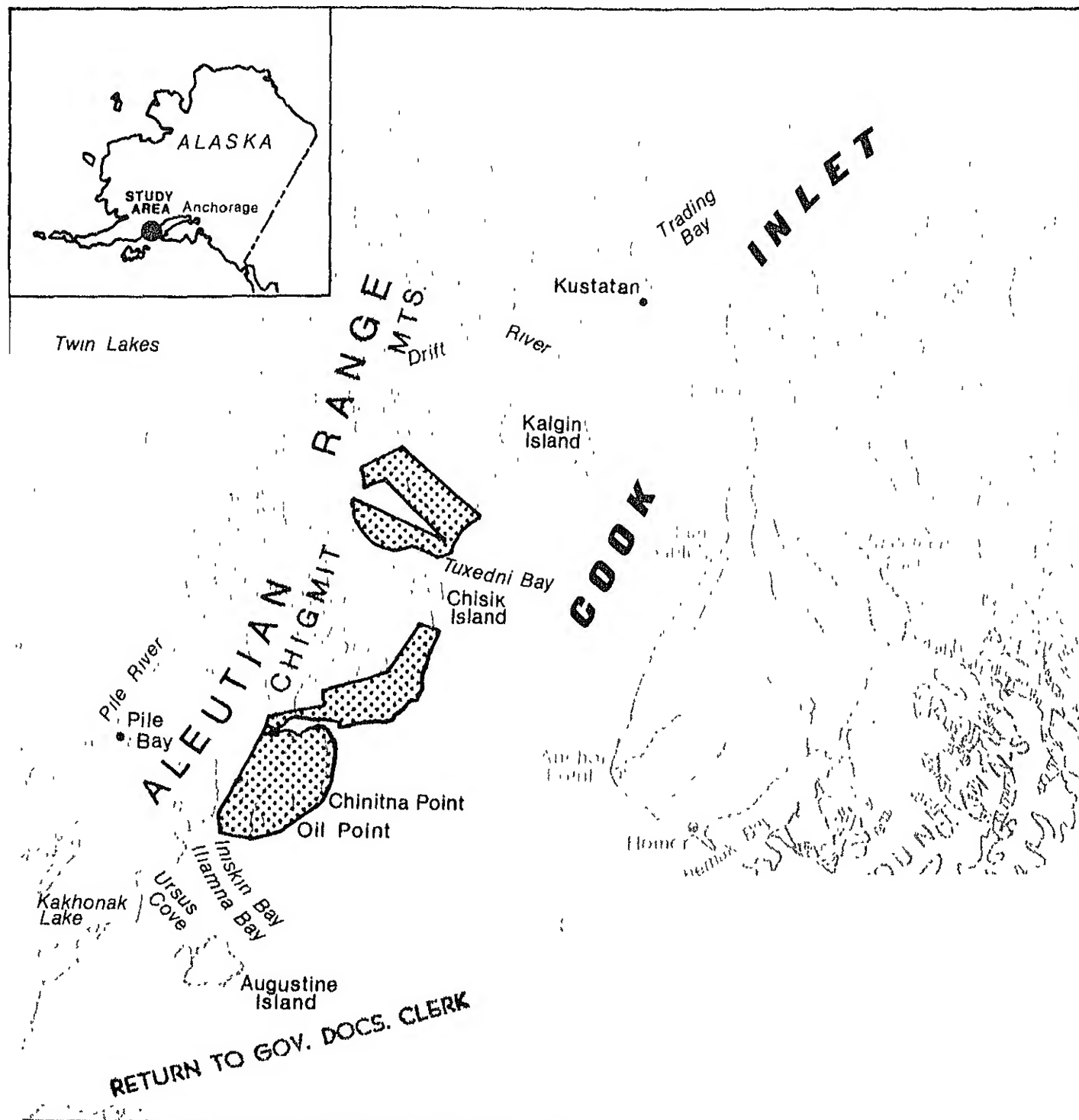


Statistics for the Tuxedni Bay Inventory Unit, Alaska, 1971

Karl M. Hegg



Prepared by
Alaska Forest Survey Project
Juneau, Alaska

Organization and staff for this study period:

O. Keith Hutchison, Project Leader
Karl M. Hegg, Interior Alaska Survey Supervisor
Ronald M. Dippold, Photo Interpretation and Field Supervisor

Field Crew:

Forest Survey
Project

O. Keith Hutchison
Karl M. Hegg
Thomas L. Laurent
Thomas Thompson

Bureau of
Land Management

John Stephenson
Danial Baird
Mel S. Mehl
Walter Rust
Lawrence Adams

Office Compilation:

John M. Berger, Supervisor and Staff (Portland)

This inventory was accomplished through the cooperation of the Bureau of Land Management, U.S. Department of Interior who provided much of personnel help, funds, and logistical air support.

Metric Conversions

1 acre = 0.404 7 hectare
1 hectare = 2.47 acres
1 cubic foot = 0.028 3 cubic meter
1 cubic meter = 35.314 5 cubic feet
1 cubic foot per acre = 0.069 97 cubic meter per hectare
1 cubic meter per hectare = 14.29 cubic feet per acre
20 cubic feet per acre = 1.399 4 cubic meter per hectare
1 square foot basal area per acre = 0.229 6 square meter per hectare
1 square meter per hectare = 4.356 square feet per acre

TIMBER RESOURCE STATISTICS FOR THE TUXEDNI BAY INVENTORY UNIT, ALASKA, 1971

Reference Abstract

Hegg, Karl M.

1979. Timber resource statistics for the Tuxedni Bay Inventory Unit, Alaska, 1971. USDA For. Serv. Resour. Bull. PNW-88, 43 p., illus. Pacific Northwest Forest and Range Experiment Station, Portland, Oregon.

Area and volume data are given for the first intensive inventory of a 180,000-acre unit on the west side of Cook Inlet, 130 miles southwest of Anchorage. Commercial forest land totaled 45 thousand acres with a total cubic volume of 105 million feet. The major species component is a hybrid mixture of Sitka and white spruce. An introductory section has comments on this hybridization, forest location, use, defect, regeneration, and stocking.

KEYWORDS: Forest surveys, timber resources, statistics (forest), Alaska (Tuxedni Bay).

Research Summary

Resource Bulletin PNW-88

1979

The forest inventory in the Tuxedni Bay area was conducted as a joint effort of the Forest Service, U.S. Department of Agriculture, and the Bureau of Land Management, U.S. Department of Interior. Preliminary studies were made and photo interpretation control data collected in the spring of 1969. The Forest Service developed the sampling design and photo interpretation procedures. Photo interpretation was done in 1969 by the Bureau of Land Management. Fieldwork was a cooperative effort and completed in 1971. Data editing and processing were done by the Forest Service.

Inventory results show a commercial forest area of 45,123 acres in a total unit of 179,720 acres. Another 29,730 acres was identified as non-commercial of which 7,551 acres were found to have volumes in excess of 800 cubic feet per acre. This forest class was field sampled, and statistical data is provided for this as well as the commercial class. Data is presented for the entire inventory unit and three natural geographical divisions or blocks--the Polly Creek, Red Glacier, and Iniskin blocks.

All of the commercial forests are in poletimber and sawtimber size-classes. No sapling or seedlings stands were noted. Extensive areas of recent nonstocked windthrow were observed but not sampled; the blowdown occurred after the aerial photography was flown.

The timber stands of the Tuxedni Unit represent one of the better concentrations of high volume commercial forest land on the mainland of interior Alaska. Average volumes per acre are 2,333 cubic feet and 11,835 board feet. Total unit volume is 105,301,500 cubic feet and 534,043,200 board feet. Much of this volume is in overmature stands with a high incidence of heart rot.

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HIGHLIGHTS

	Thousand acre	Thousand hectares		
Total Tuxedni Bay unit area:	179.7	72.8		
with forests	74.9	30.3		
with nonforests	99.7	40.4		
with noncensus water	1.8	0.7		
with census water	3.3	1.3		
Forested areas:				
commercial forest land	45.1	18.3		
noncommercial forest land				
more than 800 cubic feet per acre	7.6	3.1		
less than 800 cubic feet per acre	22.2	9.0		
Commercial forest composition:				
sawtimber	42.5	17.2		
poletimber	2.6	1.1		
seedling/sapling	0	0		
nonstocked	0	0		
Inventory unit <u>volumes</u>	Thousand cubic ^{1/} <u>feet</u>	Thousand cubic ^{1/} <u>meters</u>	Thousand board ^{2/} <u>feet</u>	Thousand cubic ^{3/} <u>meters</u>
Total net volume	105,301.5	2,980.0	534,043.2	2,636.6
Total gross volume	109,633.1	3,102.6	566,382.4	2,743.2
Annual net growth	2,035.3	57.6	13,214.2	43.3
Annual net mortality	40.6	1.1	132.3	.8

^{1/}Volume of roundwood in live trees 5.0-inch d.b.h. and larger.

^{2/}Net volume, International 1/4-inch rule.

^{3/}Volume of roundwood in softwood trees 9.0-inch d.b.h. and larger and hardwood trees 11.0-inch d.b.h. and larger.

INTRODUCTION

This resource bulletin reports on the first intensive inventory of an area on the west side of Cook Inlet about 130 miles southwest of Anchorage. This area is identified as the Tuxendi unit (fig. 1).

Aerial photography of the area was flown in 1966 by the Bureau of Land Management (BLM). Plans for a forest inventory were developed in 1969 by the Forestry Sciences Laboratory (Juneau) of the Pacific Northwest Forest and Range Experiment Station. Photo interpretation was accomplished by the BLM in 1969 and fieldwork completed in 1971 through the cooperative efforts of the BLM and the FSL. Field supervision and editing of plot records were done by the Forestry Sciences Laboratory. Data processing was done at Portland by the Pacific Northwest Forest and Range Experiment Station.

Forest Survey, authorized by the McSweeney-McNary Act in 1928 and extended to Alaska in 1954, is a nationwide effort conducted at various locations to obtain information on forest lands--their extent, condition, volume, growth, and depletion. The first inventories of the interior portion of Alaska were begun in 1956 and completed in 1962 (Hutchison 1967). These were extremely extensive inventories, and subsequently areas with concentrations of commercial forest land have been defined for more intensive effort. In addition to the Tuxedni Bay unit, areas for which intensive inventories have been conducted and for which reports are available or pending are: Susitna Valley (Hegg 1970), Kuskokwim River, Copper River (Hegg 1975b), Koyukuk (Hegg 1974), the Norton Bay Indian Reservation, and the Kantishna, Fairbanks (Hegg 1975a), Upper Tanana, and Wood-Salcha blocks of the Tanana unit.

The factual data and discussions in this report on forest area, location, condition, volume growth, and regeneration relate to the supply of wood available for local, regional, and national needs. These data are presented for use of State planners, legislators, land and forest managers, forest industry, and other forest inventory data users.

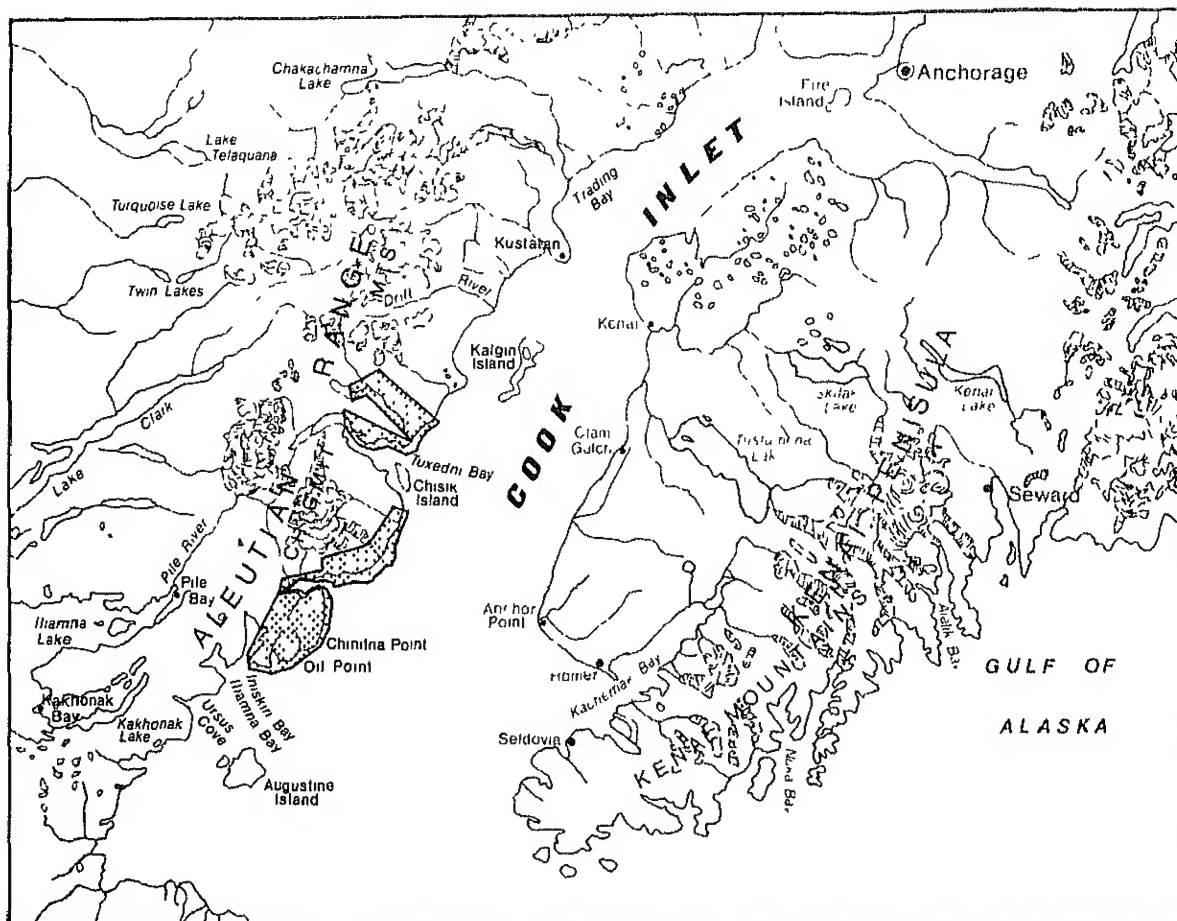


Figure 1.--The Tuxedni Bay inventory unit.

OBSERVATIONS

Area and Location

The Tuxedni unit is located due west of Homer on the west side of Cook Inlet. The unit is highlighted by having three active volcanos nearby. Mount Redoubt (10,197 feet) lies 5 miles north of the unit, Mount Illiamna (10,116 feet) is located near the middle of the unit, and Augustine Island (3,927 feet) lies 20 miles south. Augustine Island had been predicted to erupt during the period that fieldwork was in progress. Fortunately, it did not.

Tidewater and intervening 10,000-foot volcanos in such close juxtaposition necessitated that the area be photographed and inventoried as three blocks: Polly Creek, Red Glacier, and Iniskin Peninsula. The Polly Creek and Red Glacier blocks are alluvial river drainages and beach-fringed foothills, and the Iniskin Peninsula block is an area of moderate terrain with maximum elevations of 3,000 feet with forests scattered throughout. The Iniskin Peninsula was the site of considerable, oil-drilling activities in the early 1900's although commercial quantities apparently were not found (Moffit 1927).

The forests of the Tuxedni area are of special interest geographically and taxonomically. These forests represent the southern-most concentrations of commercial forests on the Pacific side of the Alaska Peninsula with only scattered pockets found further south in the Kamishak Bay Area. Due to the ameliorating effects of the surrounding ocean, however, island stands of Sitka spruce are found another 80 miles south on Kodiak Island.

Taxonomically, the Tuxedni forests are a hybridized mixture. We found what appeared to be genetically pure white spruce and Sitka spruce and all gradients of hybridization between them. This same situation occurred with black cottonwood and balsam poplar. For the purposes of this inventory we identified all spruce as white spruce and the Populus species as balsam poplar.

The forests in the Polly Creek and Red Glacier blocks are generally confined to less than 1,000-foot elevation (fig. 2 and 3) and are medium to well stocked and with large extensive stands. The Iniskin block by contrast has forest cover at higher elevations, but these forests are scattered and patchy. Throughout all three blocks and most of the Pacific side of the Alaska Peninsula, stands of alder and willow shrubs blanket those areas without forest cover to about 2,000-foot elevation.

The Tuxedni unit is essentially a virgin timber area. Spruce is the dominant forest species, and most stands (96 percent) are sawtimber sized. There are no settlements in the area, although there are a few scattered cabins and an abandoned sawmill. Most signs of man's activities are fast being covered over by encroaching vegetation.

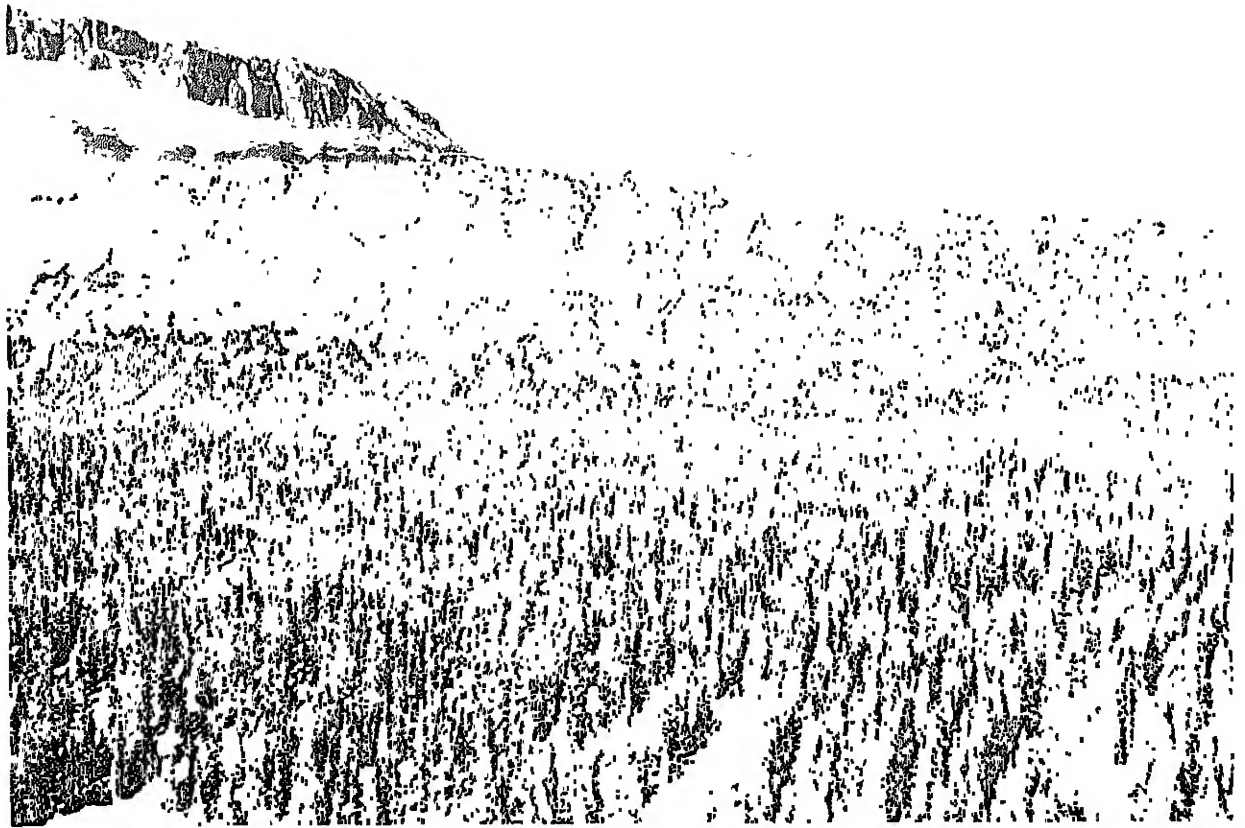


Figure 2.--The abrupt transition from valley bottom to steep slopes contributes to the forests being restricted to less than 1,000 feet elevation.

Forest Uses

By reason of remoteness and a rather wet, harsh climate, this area is quite hostile to man. At present, no use is made of the forest for timber products. The one sawmill that formerly operated in this area cut mostly for the local use of a fish cannery and local residents.

Several cabins are located along the beach in the Polly Creek area and are apparently chiefly used during periods of low tides by clam diggers working the well-known razor clam beds in the area. Salmon fishing has declined in recent years, but there must still be a fairly substantial run as evidenced by one field crew sighting 11 brown bear feeding in a 1-mile stretch of river.



Figure 3.--Stands on the Red Glacier/Polly Creek Area are nearly continuous across these valleys, interrupted only by the river drainages.

With the contrasting blue-green saltwater, lush green mountain sides, bare grey and red rock, and snow-capped volcanos, this scenic area is probably as spectacular as any in Alaska (fig. 4). Although this situation seems to call for some sort of a reserve status, the forests are over-mature, have extensive heart rot, and are increasingly subject to blowdown. Prudent management would call for some harvesting. Since the area appears quite resilient, logging and blowdown scars would probably cover over quite rapidly.

Defect

Considerable amounts of heart rot were found in the spruce stands although this would not have been so readily apparent to the cruiser except for the evidence provided by blowdown. All of the windblown trees were broken off from 1 to 4 feet above ground level and most of them had heart rot.



Figure 4.--Views such as this are commonplace in the Tuxedni area.

Based on this evidence, cruiser estimates of defect in spruce should have been somewhat higher than for the white spruce stands of interior Alaska. Instead, these estimates are nearly the same. Since the type of heart rot is a hidden defect with few external indicators, it is likely that the cull estimate (3 percent) was conservative. Estimates of defect for birch (9 percent) and balsam poplar (11 percent) are about as expected.

Regeneration and Stocking

Our inventory shows no acreage for nonstocked or seedling/sapling classes and there is a lower than normal proportion of the total number of stems in trees less than 5.0-inch d.b.h. Comparative data for southeast Alaska and interior Alaska have 57 to 84 percent of the total stems in trees less than 5.0-inch d.b.h. while the Tuxedni unit has but 35 percent. Stand table data is not available by block, but visual observations indicate that the lower number of small stems occurs chiefly in the Iniskin block where there is intense brush competition and very little tree regeneration. The Polly Creek and Red Glacier blocks are made up of more contiguous stands, also with a predominance of sawtimber. In this case, area condition class (table 5) gives a better portrayal of the Tuxedni unit stands. This table shows that about 55 percent of the forest area is in the medium-stocked category with 7 percent poorly stocked. Inspection of plot records confirm this showing a large number of points occupied by inhibiting brush.

The Tuxedni stands may be in an advancing treeline situation where most regeneration is at the edge of the forest/nonforest boundary. Some edge areas of regeneration may not have been adequately sampled.

SURVEY METHOD

The estimates of area and timber volumes are based on a double sampling procedure (Bickford 1952). Enough 1-acre points to satisfy specific levels of statistical precision were uniformly distributed on aerial photographs. These photo points were classified by land type, forest type, and volume strata. A subsample was then drawn from all land types and reexamined on the photos. All subsample points originally classified as commercial forest land, as well as any other subsample points questionably classified, were visited on the ground.

For the Tuxedni inventory unit, we interpreted 1,515 photo points and reexamined 37 noncommercial and nonforest points. This reexamination served as a ground check and yielded 8 questionable points which, with the 48 commercial forest and operable noncommercial points, totaled 56 locations actually checked on the ground. The ground plot was located at the exact point established on the photo. At each ground location, a 10-point cluster of plots was measured. A 40-factor, basal area gage was used to select sample trees at each point for detailed measurements of size and vigor. Through data processing procedures, the total sample and the individual tree volumes were expanded to obtain the various data needed or specified on area and volume. The tables herein, however, depart from the standard Forest Survey tables with the addition of a noncommercial forest category called "operable." During the initial inventory of interior Alaska, we found that much noncommercial forest land had a relatively high per-acre volume. When more intensive inventories were begun in the mid-1960's, we and our cooperators agreed that some of this noncommercial strata had potential value as a commercial wood supply. By extrapolation, from cutting minimums of 3 cords per acre used in the Lake States and Canada, we established 9 cords or 800 cubic feet per acre as a prudent level for Alaska. This threefold increase in the minimum economic operating level should help compensate for the higher production and shipping costs in Alaska. The operable noncommercial areas presently have more than 800 gross cubic feet per acre in poletimber and sawtimber trees. The area and volume in this classification, although considered adequate for some cutting operations, should not be included in allowable cut computations. Future studies may show, through logging or other silvicultural practices, if these marginal sites can be managed as commercial forest land. None of the reported areas and volumes (whether classed as commercial or other) should be used in any calculation of an allowable cut without consideration of possible management and land-use alternatives.

SAMPLING ERROR

The reliability of the inventory is expressed in terms of relative sampling errors.

<u>Area and volume</u>	<u>Design sampling error</u>	<u>Sampling error achieved</u> - - - - - <u>Percent</u> - - - - -	<u>Sampling error of total area or volume reported</u>
Area:			
Commercial forest land, per million acres	3.0	3.0	+12.0
Noncommercial forest land, per million acres	10.0	7.0	+38.0
Volume:			
Commercial forest land, per billion cubic feet	5.0	4.0	+13.0
Commercial forest land, growth per billion cubic feet--net	5.0	1.0	+14.0

For the Tuxedni unit, we are reporting 105.3 million cubic feet of growing-stock volume, +13 percent. If repeated samples were taken of this population, the chances are two in three that the true total cubic-foot volume lies between 91.6 and 119.0 million cubic feet.

In all instances we more than achieved our design sampling error.

PRINCIPAL TREE SPECIES OF INTERIOR ALASKA^{4/}

Softwoods:

Black spruce	<u>Picea mariana</u> (Mill.) B.S.P.
Sitka spruce	<u>Picea sitchensis</u> (Bong.) Carr.
Tamarack	<u>Larix laricina</u> (Du Roi) K. Koch
White spruce	<u>Picea glauca</u> (Moench) Voss

Hardwoods:

Balsam poplar	<u>Populus balsamifera</u> L.
Black cottonwood	<u>Populus trichocarpa</u> Torr. & Gray
Paper birch	<u>Betula papyrifera</u> Marsh.
Quaking aspen	<u>Populus tremuloides</u> Michx. .

according to Little (1953).

TERMINOLOGY

Allowable cut.--The volume of timber that could be cut on commercial forest land during a given period under specified management plans for sustained production such as those in effect on National Forests.

Area condition class.--Area condition class provides a general stratification of commercial forest land by management opportunity class as indicated by the stocking or area controlled by tree and cover class.

Area condition
classification
code

- | | |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>10</u> | Areas 100 percent or more stocked with desirable trees and not overstocked. Stands in this category generally do not require any treatment at present to maintain high level of growth. |
| <u>20</u> | Areas 100 percent or more stocked with desirable trees and overstocked. Stands in this category need a treatment such as thinning to produce maximum levels of growth of desirable trees. |
| <u>30</u> | Areas 60 to 100 percent stocked with desirable trees, and with less than 30 percent of the area controlled by acceptable growing-stock trees, cull trees, inhibiting vegetation, slash, or nonstockable conditions. Stands in this category generally have conditions favorable for natural improvement of stocking without special treatment. |
| <u>40</u> | Areas 60 to 100 percent stocked with desirable trees and with 30 percent or more of the area controlled by other trees (or overstocked areas) or conditions that ordinarily prevent occupancy by desirable trees. Stands in this category generally have little prospect for improvement in desirable tree stocking without special treatment such as thinning, cull tree removal, etc. |
| <u>50</u> | Areas less than 60 percent stocked with desirable trees but with 100-percent or more stocking with growing-stock trees. Stands in this category generally have little prospect for improved desirable tree stocking without special treatment. Stands almost to rotation age would usually not be treated. |
| <u>60</u> | Areas less than 60 percent stocked with desirable trees but with 60- to 100-percent stocking with growing-stock trees. Stands in this category generally have little prospect for improved desirable tree stocking without special treatment such as timber stand improvement or planting. |

Areas less than 60 percent stocked with desirable trees and with less than 60-percent stocking with growing-stock trees. Stands in this category generally have little prospect for improved desirable tree or growing-stock stocking without treatment such as site preparation and regeneration, etc.

Commercial species.--Trees presently or prospectively suitable for industrial products.

Cull.--Portions of a tree unusable for industrial products because of rot, form, or other defect.

Cull trees.--Live trees of sawtimber or poletimber size unmerchantable for saw logs now or prospectively because of defect, rot, or species.

Rough trees: Live trees of 5.0-inch and larger d.b.h. that do not contain a saw log now or prospectively, primarily because of roughness, poor form, or because they are a noncommercial species.

Rotten trees: Live trees of 5.0-inch and larger d.b.h. that do not contain a saw log now or prospectively, primarily because of rot.

Forest land.--Land at least 16.7 percent stocked by forest trees of any size, or formerly having such tree cover, and not currently developed for nonforest use.

Commercial forest land: Forest land producing or capable of producing crops of industrial wood and not withdrawn from timber utilization. Areas qualifying as commercial forest land have the capability of producing in excess of 20 cubic feet per acre per year of industrial wood under management.

Noncommercial forest land: Unproductive forest land incapable of yielding crops of industrial wood because of adverse site conditions (producing less than 20 cubic feet per acre per year) and productive forest land withdrawn from commercial timber use through statute or administrative regulation.

Noncommercial operable--noncommercial forest land with a gross volume in excess of 800 cubic feet per acre.

Noncommercial inoperable--noncommercial forest land with a gross volume of less than 800 cubic feet per acre.

Forests types.--A classification of forest land based on the species forming a plurality of the live tree stocking.

Spruce: Forests in which a plurality of the stand is white spruce. Common associates include birch, aspen, and cottonwood.

Cottonwood: Forests in which a plurality of the stand is black cottonwood or balsam poplar or both. Common associates include white spruce and birch.

Aspen or birch: Forests in which a plurality of the stand is aspen or paper birch or both. Common associates include black cottonwood and white spruce.

Growing stock trees.--Sawtimber trees, poletimber trees, saplings, and seedlings; that is, all live trees except cull trees.

Desirable trees: Growing-stock trees with no serious defects in quality limiting present or prospective use, relatively high vigor, and no pathogens that could result in death or serious deterioration before rotation age. They include the type of trees forest managers aim to grow; that is, the trees left in silvicultural cutting or favored in cultural operations.

Acceptable trees: Trees meeting the specifications for growing stock but not qualifying as desirable.

Hardwoods.--Dicotyledonous trees, usually broad leaved and deciduous. Alaska hardwood species are paper birch, quaking aspen, black cottonwood, and balsam poplar.

Inhibiting vegetation.--Cover sufficiently dense to prevent establishment of tree seedlings.

International 1/4-inch rule.--A rule used to determine the tree volume in board feet (Bruce and Schumacher 1950).

Land area.--The area of dry land and land temporarily or partly covered by water such as marshes, swamps, and river flood plains (omitting tidal flats below mean high tide); streams, sloughs, estuaries, and canals less than 120 feet wide; and lakes, reservoirs, and ponds less than 1 acre in area.

Log grades.--A classification of logs based on external characteristics as indicators of quality or value.

Mean annual increment (MAI).--A measure of the volume of wood, in cubic feet, produced on 1 acre during 1 year. Forest Survey minimum standard for commercial forest land is the ability to produce 20 cubic feet per acre per year.

Mortality.--Number or sound-wood volume of live trees dying from natural causes during a 5-year period.

Net annual growth of growing stock.--The annual change in volume of sound wood in live sawtimber and poletimber trees.

Net annual growth of sawtimber.--The annual change in net board-foot volume of live sawtimber trees.

Net volume.--The gross volume of a tree less deductions for rot, sweep, or other defect affecting product use.

Growing-stock volume: The net volume of sound wood in the bole of growing-stock trees 5.0 inches and larger in diameter at breast height, from stump to a minimum 4.0-inch top outside bark or to the point where the central stem breaks in to limbs.

Noncommercial species.--Tree species of typically small size, poor form, or inferior quality which normally do not develop into trees suitable for industrial products.

Nonforest land.--Land that does not qualify as forest land. Includes land that has never supported forests and lands formerly forested where forest use is precluded by development for nonforest uses, such as crops, improved pasture, residential areas, and city parks. Also includes improved roads and certain areas of water classified by the Bureau of Census as land. Unimproved roads, streams, canals, and nonforest strips in forest areas must be more than 120 feet wide; and clearings in forest areas must be more than 1 acre in size to qualify as nonforest land.

Nonstockable land.--Areas of forest land not capable of supporting forest growth because of rock, water, etc.

Salvable dead trees.--Standing dead trees that are considered currently or potentially merchantable by regional standards. A poletimber tree must be more than one-half sound; a sawtimber tree more than one-third sound (board measure).

Saw log.--A log meeting minimum standards of diameter, length, and defect, including logs at least 8 feet long, sound and straight, and with a minimum diameter inside bark of 6 inches for softwoods (8 inches for hardwoods).

Saw-log portion.--That part of the bole of sawtimber trees between the stump and the saw log top.

Saw-log top.--The point on the bole of sawtimber trees above which a saw log cannot be produced. The minimum saw-log top is 7.0-inch d.o.b. (diameter outside bark) for softwoods and 9.0-inch d.o.b. for hardwoods.

Site classes.--A classification of forest land by its capacity to grow crops of industrial wood.

Softwoods.--Coniferous trees, usually evergreen with needles or scalelike leaves.

Stocking.--The degree of occupancy of land by trees, measured by basal area or the number of trees in a stand by size or age and spacing, compared with the basal area or number of trees required to fully utilize the growth potential of the land; that is, the stocking standard.

Overstocked areas: Areas where growth of trees is significantly reduced by excessive numbers of trees.

Nonstocked areas: Commercial forest lands less than 16.7 percent stocked with growing-stock trees.

Stand-size classes.--A classification of forest land based on size of the growing stock present; that is, sawtimber, poletimber, or saplings and seedlings.

Sawtimber stands: Stands at least 16.7 percent stocked with growing-stock trees, with half or more of total stocking in sawtimber or poletimber trees, and with sawtimber stocking at least equal to poletimber stocking.

Poletimber stands: Stands at least 16.7 percent stocked with growing-stock trees of which half or more of this stocking is in poletimber and sawtimber trees, and with poletimber stocking exceeding that of sawtimber.

Sapling-seedling stands: Stands at least 16.7 percent stocked with growing-stock trees of which more than half of the stocking is saplings and seedlings.

Tree-size classes.--A classification based on the diameter of the tree at breast height (4-1/2 feet above the ground on the uphill side of the tree):

Sawtimber-size tree: Softwood tree of 9.0-inch d.b.h. and larger, hardwood tree of 11.0-inch d.b.h. and larger.

Poletimber-size tree: Softwood tree of 5.0- to 8.9-inch d.b.h., hardwood tree of 5.0- to 10.9-inch d.b.h.

Sapling-size tree: A tree of 1.0- to 4.9-inch d.b.h.

Seedling-size tree: A tree of less than 1.0-inch d.b.h.

Upper stem portion: That part of the main stem or fork of sawtimber trees above the saw-log top to a minimum top diameter of 4.0-inches outside bark or to the point where the main stem or fork breaks into limbs.

Water.--Bureau of the Census definition: Streams, sloughs, estuaries, and canals more than 1/8 of a statute mile in width; and lakes, reservoirs, and ponds more than 40 acres in area.

Forest Survey: The same as the Bureau of Census definition, except minimum width of streams etc. is 120 feet and minimum size of lakes etc. is 1 acre.

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TABLES

The statistical tables for the Tuxedni Bay inventory unit have been prepared for the total unit and by three blocks--the Polly Creek, Red Glacier, and Iniskin. The three blocks were management units established by the Bureau of Land Management before this inventory.

Table 1--Area by productivity and
land classes, Tuxedni Unit,
Alaska, 1971

Land class	Thousand acres
Forest land:	
Commercial	45.1
Noncommercial:	
Operable ^{1/}	7.6
Inoperable ^{2/}	<u>22.2</u>
Total	74.9
Nonforest land: ^{3/}	<u>101.5</u>
Total land	176.4
Census water:	<u>3.3</u>
Total area	179.7

^{1/}Operable noncommercial forest land is defined as areas supporting a gross volume of more than 800 cubic feet per acre.

^{2/}Inoperable noncommercial forest land is defined as areas supporting a gross volume of less than 800 cubic feet per acre.

^{3/}Includes swampland, industrial and urban areas, other nonforest land, and 1,805 acres, classed as water by Forest Survey standards, but defined by the Bureau of the Census as land.

Table 2--Area of commercial and operable noncommercial forest land,
by stand-size classes, Tuxedni Unit, Alaska, 1971

(Thousand acres)

Stand-size class	Forest land		
	Commercial	Operable noncommercial	Total
Sawtimber stands	42.5	7.6	50.1
Poletimber stands	2.6	0.0	2.6
Seedling and sapling stands	0.0	0.0	0.0
Nonstocked areas	0.0	0.0	0.0
Total	45.1	7.6	52.7

Table 3--Area of commercial and operable noncommercial forest land,
by board-foot volume classes, Tuxedni Unit, Alaska, 1971

(Thousand acres)

Stand volume per acre ^{1/}	Forest land		
	Commercial	Operable noncommercial	Total
0- 799	0.6	0.0	0.6
800-1,499	0.0	0.0	0.0
1,500-2,999	2.3	0.0	2.3
3,000-4,999	3.4	3.7	7.1
5,000-6,999	3.5	3.9	7.4
More than 7,000	35.3	0.0	35.3
Total	45.1	7.6	52.7

^{1/}Net volume International 1/4-inch rule.

Table 4--Area of commercial and operable noncommercial forest land,
by stand-volume and stand-size classes, Tuxedni Unit, Alaska, 1971

(Thousand acres)

Stand volume class	Stand-size classes				
	Non- stocked	Seedling- sapling	Poletimber	Sawtimber	Total
<u>Cubic feet</u>					
0- 299	0.0	0.0	0.0	0.0	0.0
300- 799	0.0	0.0	0.6	2.3	2.9
800-1,499	0.0	0.0	0.0	16.5	16.5
1,500-2,199	0.0	0.0	0.0	5.9	5.9
More than 2,200	0.0	0.0	2.0	25.4	27.4
Total	0.0	0.0	2.6	50.1	52.7

Table 5--Area of commercial forest land by area condition class,
Tuxedni Unit, Alaska, 1971

Code	Area condition class	Thousand acres
<u>10</u>	Areas 100 percent or more stocked with desirable trees and not overstocked.	0.0
<u>20</u>	Areas 100 percent or more stocked with desirable trees and overstocked.	0.0
<u>30</u>	Areas 60 to 100 percent stocked with desirable trees, and with less than 50 percent of the area controlled by acceptable growing-stock trees, cull trees, inhibiting vegetation, slash, or nonstockable conditions.	0.0
<u>40</u>	Areas 60 to 100 percent stocked with desirable trees, and with 30 percent or more of the area controlled by other trees (or overstocked areas) and/or conditions that ordinarily prevent occupancy by desirable trees.	0.0
<u>50</u>	Areas less than 60 percent stocked with desirable trees, but with 100-percent or more stocking with growing-stock trees.	17.5
<u>60</u>	Areas less than 60 percent stocked with desirable trees, but with 60- to 100-percent stocking with growing-stock trees.	24.6
<u>70</u>	Areas poorly stocked with desirable trees, and poorly stocked with growing-stock trees.	<u>3.0</u>
All classes		45.1

Table 6--Area of commercial forest land, by site class, Tuxedni Unit, Alaska, 1971

Site class ^{1/}	Thousand acres
<u>Cubic feet</u>	
165 or more ^{2/}	0.0
120-165	0.0
85-120	0.0
50- 85	1.4
20- 50	43.7
Total	45.1

^{1/}Site class is a classification of forest land in terms of inherent capability to grow crops of industrial wood based on fully stocked natural stands.

^{2/}Potential yield, mean annual increment.

Table 7--Area of commercial and noncommercial forest land, by forest type, Tuxedni Unit, Alaska, 1971

(Thousand acres)

Forest type	Commercial forest land	Noncommercial forest land		
		Operable ^{1/}	Inoperable ^{2/}	Total
Balsam poplar	6.6	0.0	0.9	7.5
Black spruce	0.0	0.0	^{3/} 21.3	21.3
Paper birch	0.0	0.0	0.0	0.0
Quaking aspen	0.0	0.0	0.0	0.0
White spruce	38.5	7.6	0.0	46.1
Total	45.1	7.6	22.2	74.9

^{1/}Operable noncommercial forest land is defined as areas presently supporting more than 800 cubic feet of volume (gross).

^{2/}Inoperable noncommercial forest land is defined as area supporting a gross volume of less than 800 cubic feet per acre.

^{3/}All inoperable noncommercial forest land is assumed to be black spruce.

Table 8--Area of commercial forest land, by stand-age and stand-size classes, Tuxedni Unit, Alaska, 1971

(Thousand acres)

Stand age (years)	Stand-size class				
	Non- stocked	Seedling- sapling	Poletimber	Sawtimber	Total
Nonstocked	--	--	--	--	--
1- 10	0	0	0	0	0
10- 20	0	0	0	0	0
20- 30	0	0	0	0	0
30- 40	0	0	0	0	0
40- 50	0	0	0	2.3	2.3
50- 60	0	0	0	3.4	3.4
60- 70	0	0	0	0	0
70- 80	0	0	0	5.4	5.4
80- 90	0	0	0	3.1	3.1
90-100	0	0	0	5.1	5.1
100-120	0	0	2.6	5.3	7.9
120-140	0	0	0	6.2	6.2
140-160	0	0	0	3.8	3.8
160-180	0	0	0	6.5	6.5
180-200	0	0	0	1.4	1.4
200-300	0	0	0	0	0
300 and over	0	0	0	0	0
Mixed ages	0	0	0	0	0
Total	0	0	2.6	42.5	45.1

Table 9--Area of operable noncommercial forest land, by stand-age
and stand-size classes, Tuxedni Unit, Alaska, 1971

(Thousand acres)

Stand age (years)	Stand-size class				
	Non- stocked	Seedling- sapling	Poletimber	Sawtimber	Total
Nonstocked	--	--	--	--	--
1- 10	0	0	0	0	0
10- 20	0	0	0	0	0
20- 30	0	0	0	0	0
30- 40	0	0	0	1.5	1.5
40- 50	0	0	0	0	0
50- 60	0	0	0	0	0
60- 70	0	0	0	0	0
70- 80	0	0	0	0	0
80- 90	0	0	0	0	0
90-100	0	0	0	0	0
100-120	0	0	0	1.4	1.4
120-140	0	0	0	0	0
140-160	0	0	0	2.9	2.9
160-180	0	0	0	0.4	0.4
180-200	0	0	0	1.4	1.4
200-300	0	0	0	0	0
300 and over	0	0	0	0	0
Mixed ages	0	0	0	0	0
Total	0	0	0	7.6	7.6

Table 10--Number of growing-stock trees on commercial forest land,
by species and diameter classes, Tuxedni Unit, Alaska, 1971

(Thousand trees)

Diameter class (Inches d.b.h.)	Balsam poplar	Paper birch	Quaking aspen	White spruce	Total
1.0- 2.9	0.0	0.0	0.0	2,058.0	2,058.0
3.0- 4.9	159.1	193.5	0.0	1,716.2	2,068.8
5.0- 6.9	180.5	306.8	0.0	1,508.8	1,996.1
7.0- 8.9	124.0	417.9	0.0	750.2	1,292.1
9.0-10.9	92.3	229.5	0.0	725.2	1,047.0
11.0-12.9	58.7	36.1	0.0	623.4	718.2
13.0-14.9	76.0	17.5	0.0	452.8	546.3
15.0-16.9	41.6	0.0	0.0	249.7	291.3
17.0-18.9	33.6	0.0	0.0	223.7	257.3
19.0-20.9	22.3	0.0	0.0	170.5	192.8
21.0-28.9	39.6	0.0	0.0	245.5	285.1
29.0+	10.1	0.0	0.0	31.6	41.7
Total	837.8	1,201.3	0.0	8,755.6	10,794.7

Table 11--Number of growing-stock trees 5.0-inch d.b.h. and larger on commercial and operable noncommercial forest land, by species and 5-foot height classes, Tuxedni Unit, Alaska, 1971

(Thousand trees)

5-foot height	White spruce	Paper birch	Balsam poplar	Quaking aspen	Total
0- 30	1,537.6	292.8	60.4	0.0	1,890.8
31- 35	561.9	29.1	39.8	0.0	630.8
36- 40	775.7	38.3	72.7	0.0	886.7
41- 45	369.2	98.0	87.1	0.0	554.3
46- 50	558.3	370.7	75.3	0.0	1,004.3
51- 55	406.5	157.8	96.5	0.0	660.8
56- 60	447.5	34.9	79.8	0.0	562.2
61- 65	389.6	0.0	90.5	0.0	480.1
66- 70	221.3	0.0	18.8	0.0	240.1
71- 75	210.6	0.0	13.6	0.0	224.2
76- 80	171.1	0.0	16.5	0.0	187.6
81- 85	148.2	0.0	13.2	0.0	161.4
86- 90	69.7	0.0	6.9	0.0	76.6
91- 95	55.3	0.0	6.3	0.0	61.6
96-100	38.0	0.0	1.4	0.0	39.4
100+	58.9	0.0	0.0	0.0	58.9
Total	6,019.4	1,021.6	678.8	0.0	7,719.8

Table 12--Net volume of timber on commercial and operable noncommercial forest land, by class of timber and softwoods and hardwoods, Tuxedni Unit, Alaska, 1971

(Million cubic feet)

Class of timber	Commercial forest land			Operable noncommercial forest land ^{1/}		
	Softwoods	Hardwoods	Total	Softwoods	Hardwoods	Total
Sawtimber trees:						
Saw-log portion	81.5	7.8	89.3	6.1	0.0	6.1
Upper-stem portion	3.0	.9	3.9	.4	0.0	.4
Total	84.5	8.7	93.2	6.5	0.0	6.5
Poletimber trees	6.5	5.6	12.1	1.7	.1	1.8
All growing stock trees	91.0	14.3	105.3	8.2	.1	8.3
Rough trees	.6	.2	.8	0.0	0.0	0.0
Rotten trees	1.4	.4	1.8	.1	0.0	.1
Salvable dead trees	.2	0.0	.2	.1	0.0	.1
Total	93.2	14.9	108.1	8.4	0.1	8.5

Table 13--Net volume of growing stock on commercial forest land, by species and diameter classes, Tuxedni Unit, Alaska, 1971

(Million cubic feet)

Species	Diameter class (inches at breast height)										Total
	5.0- 6.9	7.0- 8.9	9.0- 10.9	11.0- 12.9	13.0- 14.9	15.0- 16.9	17.0- 18.9	19.0- 20.9	21.0- 26.9	27.0+	
Softwoods:											
White spruce	2.7	3.8	7.0	9.8	11.2	8.4	9.9	9.4	19.7	9.1	91.0
Total	2.7	3.8	7.0	9.8	11.2	8.4	9.9	9.4	19.7	9.1	91.0
Hardwoods:											
Paper birch	.6	1.8	1.7	.5	.2	0.0	0.0	0.0	0.0	0.0	4.8
Balsam poplar	.2	.6	.8	.7	1.2	.8	1.1	.9	1.9	1.3	9.5
Quaking aspen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.8	2.4	2.5	1.2	1.4	.8	1.1	.9	1.9	1.3	14.3
Total	3.5	6.2	9.5	11.0	12.6	9.2	11.0	10.3	21.6	10.4	105.3

Table 14--Net volume of growing stock on commercial and operable noncommercial forest land, by species and diameter classes, Tuxedni Unit, Alaska, 1971

(Million cubic feet)

Species	Diameter class (inches at breast height)										Total
	5.0- 6.9	7.0- 8.9	9.0- 10.9	11.0- 12.9	13.0- 14.9	15.0- 16.9	17.0- 18.9	19.0- 20.9	21.0- 26.9	27.0+	
Softwoods:											
White spruce	3.0	5.2	8.7	10.8	13.1	8.9	10.9	9.8	19.8	9.1	99.3
Total	3.0	5.2	8.7	10.8	13.1	8.9	10.9	9.8	19.8	9.1	99.3
Hardwoods:											
Paper birch	.6	1.8	1.7	.5	.2	0.0	0.0	0.0	0.0	0.0	4.9
Balsam poplar	.2	.5	.7	.8	1.2	.9	1.1	.9	1.9	1.3	9.5
Quaking aspen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	.8	2.3	2.4	1.3	1.4	.9	1.1	.9	1.9	1.3	14.3
Total	3.8	7.5	11.1	12.1	14.5	9.8	12.0	10.7	21.7	10.4	113.6

Table 15--Net volume of sawtimber on commercial forest land, by species and diameter classes, Tuxedni Unit, Alaska, 1971

(International 1/4-inch rule, million board feet)

Species	Diameter class (inches at breast height)								Total
	9.0- 10.9	11.0- 12.9	13.0- 14.9	15.0- 16.9	17.0- 18.9	19.0- 20.9	21.0- 28.9	29.0+	
Softwoods:									
White spruce	41.4	55.0	62.7	46.8	56.3	52.6	139.2	34.4	488.4
Total	41.4	55.0	62.7	46.8	56.3	52.6	139.2	34.4	488.4
Hardwoods:									
Paper birch	0.0	2.3	1.1	0.0	0.0	0.0	0.0	0.0	3.4
Balsam poplar	0.0	2.2	4.9	3.9	6.0	5.0	14.2	6.0	42.2
Quaking aspen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.0	4.5	6.0	3.9	6.0	5.0	14.2	6.0	45.6
Total	41.4	59.5	68.7	50.7	62.3	57.6	153.4	40.4	534.0

Table 16--Net volume of sawtimber on commercial and operable noncommercial forest land, by species and diameter classes, Tuxedni Unit, Alaska, 1971

(International 1/4-inch rule, million board feet)

Species	Diameter class (inches at breast height)								Total
	9.0- 10.9	11.0- 12.9	13.0- 14.9	15.0- 16.9	17.0- 18.9	19.0- 20.9	21.0- 28.9	29.0+	
Softwoods:									
White spruce	51.7	60.8	72.9	49.7	61.3	54.9	139.6	34.4	525.3
Total	51.7	60.8	72.9	49.7	61.3	54.9	139.6	34.4	525.3
Hardwoods:									
Paper birch	0.0	2.5	1.1	0.0	0.0	0.0	0.0	0.0	3.6
Balsam poplar	0.0	2.2	4.9	4.0	6.0	5.0	14.2	6.0	42.3
Quaking aspen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.0	4.7	6.0	4.0	6.0	5.0	14.2	6.0	45.9
Total	51.7	65.5	78.9	53.7	67.3	59.9	153.8	40.4	571.2

Table 17--Gross volume of sawtimber on commercial forest land, by species and diameter classes, Tuxedni Unit, Alaska, 1971

(International 1/4-inch rule, million board feet)

Species	Diameter class (inches at breast height)								Total
	9.0- 10.9	11.0- 12.9	13.0- 14.9	15.0- 16.9	17.0- 18.9	19.0- 20.9	21.0- 28.9	29.0+	
Softwoods:									
White spruce	41.9	56.3	64.2	48.7	58.8	56.8	147.3	39.9	513.9
Total	41.9	56.3	64.2	48.7	58.8	56.8	147.3	39.9	513.9
Hardwoods:									
Paper birch	0.0	2.5	1.3	0.0	0.0	0.0	0.0	0.0	3.8
Balsam poplar	0.0	2.4	5.5	4.8	6.6	5.7	16.6	7.1	48.7
Quaking aspen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.0	4.9	6.7	4.8	6.6	5.7	16.6	7.1	52.5
Total	41.9	61.2	71.0	53.5	65.4	62.5	163.9	47.0	566.4

Table 18--Gross volume of sawtimber on commercial and operable noncommercial forest land, by species and diameter classes, Tuxedni Unit, Alaska, 1971

(International 1/4-inch rule, million board feet)

Species	Diameter class (inches at breast height)								Total
	9.0- 10.9	11.0- 12.9	13.0- 14.9	15.0- 16.9	17.0- 18.9	19.0- 20.9	21.0- 28.9	29.0+	
Softwoods:									
White spruce	52.8	62.3	75.0	52.2	64.3	59.4	147.8	39.9	553.7
Total	52.8	62.3	75.0	52.2	64.3	59.4	147.8	39.9	553.7
Hardwoods:									
Paper birch	0.0	2.7	1.3	0.0	0.0	0.0	0.0	0.0	4.0
Balsam poplar	0.0	2.4	5.5	4.8	6.6	5.7	16.6	7.1	48.7
Quaking aspen	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.0	5.1	6.8	4.8	6.6	5.7	16.6	7.1	52.7
Total	52.8	67.4	81.8	57.0	70.9	65.1	164.4	47.0	606.4

Table 19--Net volume of growing stock on commercial and operable noncommercial forest land, by forest type and stand-size classes, Tuxedni Unit, Alaska, 1971

(Thousand cubic feet)

Forest type	Nonstocked	Sapling- seedling	Poletimber	Sawtimber	Total
<u>Commercial</u>					
White spruce	0.0	0.0	6,105.3	87,485.1	93,590.4
Balsam poplar	0.0	0.0	192.0	11,519.1	11,711.1
Quaking aspen	0.0	0.0	0.0	0.0	0.0
Paper birch	0.0	0.0	0.0	0.0	0.0
Total	0.0	0.0	6,297.3	99,004.2	105,301.5
<u>Operable noncommercial</u>					
White spruce	0.0	0.0	0.0	8,286.0	8,286.0
Other types	0.0	0.0	0.0	0.0	0.0
Total	0.0	0.0	0.0	8,286.0	8,286.0

Table 20--Net volume of sawtimber on commercial and operable noncommercial forest land, by forest type and stand-size classes, Tuxedni Unit, Alaska, 1971

(International 1/4-inch rule, thousand board feet)

Forest type	Nonstocked	Sapling- seedling	Poletimber	Sawtimber	Total
<u>Commercial</u>					
White spruce	0.0	0.0	18,277.6	461,970.4	480,248.0
Balsam poplar	0.0	0.0	385.1	53,410.1	53,795.2
Quaking aspen	0.0	0.0	0.0	0.0	0.0
Paper birch	0.0	0.0	0.0	0.0	0.0
Total	0.0	0.0	18,662.7	515,380.5	534,043.2
<u>Operable noncommercial</u>					
White spruce	0.0	0.0	0.0	37,169.1	37,169.1
Other types	0.0	0.0	0.0	0.0	0.0
Total	0.0	0.0	0.0	37,169.1	37,169.1

Table 21--Net volume of sawtimber on commercial forest land, by species and log grade, Tuxedni Unit, Alaska, 1971

(International 1/4-inch rule, million board feet)

Species	Log grade				Total
	1	2	3	4 ^{1/}	
<hr/>					
Softwoods:					
White spruce	2.9	34.7	423.7	27.1	488.4
Total	2.9	34.7	423.7	27.1	488.4
<hr/>					
Hardwoods:					
Paper birch	0.0	0.0	3.4	0.0	3.4
Balsam poplar	4.2	10.7	25.4	1.9	42.2
Quaking aspen	0.0	0.0	0.0	0.0	0.0
Total	4.2	10.7	28.8	1.9	45.6
<hr/>					
Total	7.1	45.4	452.5	29.0	534.0

^{1/}Local-use logs.

Table 22--Net volume of sawtimber on operable noncommercial forest land, by species and log grade, Tuxedni Unit, Alaska, 1971

(International 1/4-inch rule, million board feet)

Species	Log grade				Total
	1	2	3	4 ¹ / ₂	
<hr/>					
Softwoods:					
White spruce	3.0	34.7	457.7	30.0	525.4
Total	3.0	34.7	457.7	30.0	525.4
<hr/>					
Hardwoods:					
Paper birch	0.0	0.0	3.6	0.0	3.6
Balsam poplar	4.2	10.7	25.4	1.9	42.2
Quaking aspen	0.0	0.0	0.0	0.0	0.0
	4.2	10.7	29.0	1.9	45.8
<hr/>					
Total	7.2	45.4	486.7	31.9	571.2

^{1/}Local-use logs.

Table 23--Net annual growth of growing stock, by forest land class and species, Tuxedni Unit, Alaska, 1971

(Thousand cubic feet)

Species	Forest land class		
	Commercial	Operable noncommercial	Total
Softwoods:			
White spruce	1,674.0	145.1	1,819.1
Total	1,674.0	145.1	1,819.1
Hardwoods:			
Paper birch	85.0	.5	85.5
Balsam poplar	276.0	0.0	276.3
Quaking aspen	0.0	0.0	0.0
Total	361.3	.5	361.8
Total	2,035.3	145.6	2,180.9

Table 24--Net annual growth of sawtimber, by forest land classes
and species, Tuxedni Unit, Alaska, 1971

(International 1/4-inch rule, thousand board feet)

Species	Forest land class		
	Commercial	Operable noncommercial	Total
Softwoods:			
White spruce	11,668.3	277.2	11,945.5
Total	11,668.3	277.2	11,945.5
Hardwoods:			
Paper birch	73.8	2.6	76.4
Balsam poplar	1,472.1	0.0	1,472.1
Quaking aspen	0.0	0.0	0.0
Total	1,545.9	2.6	1,548.5
Total	13,214.2	279.8	13,494.0

Table 25--Net annual mortality of growing stock, by species and forest land classes, Tuxedni Unit, Alaska, 1971

(Thousand cubic feet)

Species	Forest land class		
	Commercial	Operable noncommercial	Total
Softwoods:			
White spruce	30.5	28.8	59.3
Total	30.5	28.8	59.3
Hardwoods:			
Paper birch	10.1	0.0	10.1
Balsam poplar	0.0	0.0	0.0
Quaking aspen	0.0	0.0	0.0
Total	10.1	0.0	10.1
Total	40.6	28.8	69.4

Table 26--Net annual mortality of sawtimber, by species and forest land classes, Tuxedni Unit, Alaska, 1971

(International 1/4-inch rule, thousand board feet)

Species	Forest land class		
	Commercial	Operable noncommercial	Total
Softwoods:			
White spruce	132.3	175.1	307.4
Total	132.3	175.1	307.4

Table 27--Net annual mortality of growing stock, by forest land classes, by causes, and softwoods and hardwoods, Tuxedni Unit, Alaska, 1971

(Thousand cubic feet)

Cause	Commercial forest land			Operable noncommercial forest land		
	Softwoods	Hardwoods	Total	Softwoods	Hardwoods	Total
Fire	0.0	0.0	0.0	0.0	0.0	0.0
Insects	26.8	0.0	26.8	0.0	0.0	0.0
Disease	0.0	0.0	0.0	0.0	0.0	0.0
Windthrow	3.7	0.0	3.7	18.1	0.0	18.1
Other	0.0	0.0	0.0	10.7	0.0	10.7
Unknown	0.0	10.1	10.1	0.0	0.0	0.0
Total	30.5	10.1	40.6	28.8	0.0	28.8

Table 28--Annual mortality of sawtimber by forest land classes, by causes, and softwoods and hardwoods, Tuxedni Unit, Alaska, 1971

(International 1/4-inch rule, thousand board feet)

Cause	Commercial forest land			Operable noncommercial forest land		
	Softwoods	Hardwoods	Total	Softwoods	Hardwoods	Total
Fire	0.0	0.0	0.0	0.0	0.0	0.0
Insects	111.7	0.0	111.7	0.0	0.0	0.0
Disease	0.0	0.0	0.0	0.0	0.0	0.0
Windthrow	20.6	0.0	20.6	118.9	0.0	118.9
Other	0.0	0.0	0.0	56.2	0.0	56.2
Unknown	0.0	0.0	0.0	0.0	0.0	0.0
Total	132.3	0.0	132.3	175.1	0.0	175.1

Polly Creek Block

Table 29--Area by productivity and
land class, Polly Creek Block,
Tuxedni Unit, Alaska, 1971

Land class	Thousand acres
Forest land:	
Commercial	16.3
Noncommercial:	
Operable	<u>1</u> /.4
Inoperable	<u>2</u> /10.2
Total	26.9
Nonforest land	<u>3</u> /23.9
Total	50.8
Census water	1.5
Total area	52.3

1/Operable noncommercial forest land is defined as areas supporting a gross volume of more than 800 cubic feet per acre.

2/Inoperable noncommercial forest land is defined as areas supporting a gross volume of less than 800 cubic feet per acre.

3/Includes swampland, industrial and urban areas, other non-forest land, and 223 acres classed as water by Forest Survey standards, but defined by the Bureau of Census as land.

Table 30--Area of commercial and operable noncommercial forest land, by stand-size classes, Polly Creek Block, Tuxedni Unit, Alaska, 1971

(Thousand acres)

Species	Forest land		
	Commercial	Operable noncommercial	Total
Sawtimber stands	14.3	0.4	14.7
Poletimber stands	2.0	0.0	2.0
Seedlings and sapling stands	0.0	0.0	0.0
Nonstocked areas	0.0	0.0	0.0
Total	16.3	.4	16.7

Table 31--Net volume of timber on commercial and operable noncommercial forest land, by class of timber and softwoods and hardwoods, Polly Creek Block, Tuxedni Unit, Alaska, 1971

(Million cubic feet)

Class of timber	Commercial forest land			Operable noncommercial forest land		
	Softwoods	Hardwoods	Total	Softwoods	Hardwoods	Total
Sawtimber trees:						
Saw-log portion	25.6	2.8	28.4	0.3	0.0	0.3
Upper-stem portion	1.5	.3	1.8	0.0	0.0	0.0
Total	27.1	3.1	30.2	.3	0.0	.3
Poletimber trees	3.8	4.1	7.9	.1	0.0	.1
All growing-stock trees	30.9	7.2	38.1	.4	0.0	.4
Rough trees	.1	.2	.3	0.0	0.0	0.0
Rotten trees	.2	.3	.5	0.0	0.0	0.0
Salvable dead trees	0.0	0.0	0.0	0.0	0.0	0.0
Total	31.2	7.7	38.9	.4	0.0	.4

Red Glacier Block

Table 32--Area by productivity and
land classes, Red Glacier Block,
Tuxedni Unit, Alaska, 1971

Land class	Thousand acres
Forest land:	
Commercial	12.9
Noncommercial:	
Operable	<u>1</u> /2.9
Inoperable	<u>2</u> /8.5
Total	24.3
Nonforest land	<u>3</u> /15.1
Total	39.4
Census water	<u>1</u> .4
Total area	40.8

1/Operable noncommercial forest land is defined as areas supporting a gross volume of more than 800 cubic feet per acre.

2/Inoperable noncommercial forest land is defined as areas supporting a gross volume of less than 800 cubic feet per acre.

3/Includes swampland, industrial and urban areas, other non-forest land, and 223 acres classed as water by Forest Survey standards, but defined by the Bureau of Census as land.

Table 33--Area of commercial and operable noncommercial forest land, by stand-size classes, Red Glacier Block, Tuxedni Unit, Alaska, 1971

(Thousand acres)

Stand-size class	Forest land		
	Commercial	Operable noncommercial	Total
Sawtimber stands	12.9	2.9	15.8
Other size classes	0.0	0.0	0.0
Total	12.9	2.9	15.8

Table 34--Net volume of timber on commercial and operable noncommercial forest land, by class of timber and softwoods and hardwoods, Red Glacier Block, Tuxedni Unit, Alaska, 1971

(Million cubic feet)

Class of timber	Commercial forest land			Operable noncommercial forest land		
	Softwoods	Hardwoods	Total	Softwoods	Hardwoods	Total
Sawtimber trees:						
Saw-log portion	32.0	0.8	32.8	2.0	0.0	2.0
Upper-stem portion	.9	.1	1.0	.2	0.0	.2
Total	32.9	.9	33.8	2.2	0.0	2.2
Poletimber trees	1.5	.2	1.7	.9	0.0	.9
All growing-stock trees	34.4	1.1	35.5	3.1	0.0	3.1
Rough trees	.4	0.0	.4	0.0	0.0	0.0
Rotten trees	.7	0.0	.4	0.0	0.0	0.0
Salvable dead trees	0.0	0.0	0.0	0.1	0.0	0.1
Total	35.5	1.1	36.6	3.2	0.0	3.2

Iniskin Block

Table 35--Area by productivity and
land classes, Iniskin Block,
Tuxedni Unit, Alaska, 1971

Land class	Thousand acres
Forest land:	
Commercial	15.9
Noncommercial:	
Operable	<u>1</u> /4.3
Inoperable	<u>2</u> /3.5
Total	23.7
Nonforest land	<u>3</u> /62.5
Total	86.2
Census water	<u>.4</u>
Total area	86.6

1/Operable noncommercial forest land is defined as areas supporting a gross volume of more than 800 cubic feet per acre.

2/Inoperable noncommercial forest land is defined as areas supporting a gross volume of less than 800 cubic feet per acre.

3/Includes swampland, industrial and urban areas, other non-forest land, and 223 acres classed as water by Forest Survey standards, but defined by the Bureau of Census as land.

Table 36--Area of commercial and operable noncommercial forest land, by stand-size classes, Iniskin Block, Tuxedni Unit, Alaska, 1971

(Thousand acres)

Stand-size class	Forest land		
	Commercial	Operable noncommercial	Total
Sawtimber stands	15.4	4.2	19.6
Poletimber stands	.6	0.0	.6
Seedling and sapling stands	0.0	0.0	0.0
Nonstocked areas	0.0	0.0	0.0
Total	16.0	4.2	20.2

Table 37--Net volume of timber on commercial and operable noncommercial forest land, by class of timber and softwoods and hardwoods, Iniskin Block, Tuxedni Unit, Alaska, 1971

(Million cubic feet)

Class of timber	Commercial forest land			Operable noncommercial forest land		
	Softwoods	Hardwoods	Total	Softwoods	Hardwoods	Total
Sawtimber trees:						
Saw-log portion	23.9	4.2	28.1	3.8	0.0	3.8
Upper-stem portion	0.6	.5	1.1	0.2	0.0	0.2
Total	24.5	4.7	29.2	4.0	0.0	4.0
Poletimber trees	1.2	1.3	2.5	.7	0.0	.7
All growing-stock trees	25.7	6.0	31.7	4.7	0.0	4.7
Rough trees	.1	0.0	.1	0.0	0.0	0.0
Rotten trees	.5	0.0	.6	0.0	0.0	0.0
Salvable dead trees	.2	0.0	.2	.1	0.0	.1
Total	26.5	6.1	32.6	4.8	0.0	4.8

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2. Developing and evaluating alternative methods and levels of resource management.
3. Achieving optimum sustained resource productivity consistent with maintaining a high quality forest environment.

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*Mailing address: Pacific Northwest Forest and Range
Experiment Station
809 N.E. 6th Ave
Portland, Oregon 97232*